



Qualifications

- Bachelor of Engineering (Civil) (Hons) - University of Queensland, 1978.
- Doctor of Philosophy (River Hydraulics) - University of Queensland, 1991.

Registrations

- Registered Professional Engineer of Queensland (No. 3132).
- Chartered Professional Engineer, Australia (NPER No. 24344).

Appointments - Current

- Adjunct Professor, School of Engineering, University of Queensland
- Immediate Past Chairman, National Committee on Water Engineering, Institution of Engineers, Australia. (3 yrs).
- Past Chairman and Member, Water Panel, Queensland Division, Institution of Engineers, Australia.

Appointments - Previous

- Retired Committee Member, Queensland Division, Institution of Engineers, Australia (retired 2004, 12 yrs).
- Retired Convenor, Engineering Practice Sub-Committee, Queensland Division, Institution of Engineers, Australia (retired 2004, 4 yrs).
- Deputy Chairman, Organizing Committee for the 8th National Conference on Hydraulics in Water Engineering, 2004.
- Representative for Institution of Engineers, Australia on the Public Review of the Brisbane River Flood Levels, 2003.
- Representative for Institution of Engineers, Australia on the EPA Coasts and Clean Seas Technical Advisory Panel, 2000
- Chairman, Organizing Committee for the IEAust NCWE 25th Hydrology & Water Resources Symposium, and the International Conference on Water Resources and Environment Research, 1999
- Committee Member, International Conference on Hydraulics in Civil Engineering, 1994

Awards

- 2003 Engineers Australia (Queensland Division) Excellence Award – Research & Development
- 2005 Nominated for the Queensland Australian of the Year Award

Fields of Special Competence

Design and analysis of works associated with the water resource and engineering field, with specialist capabilities including: • river engineering & fluvial hydraulics; • minesite water & quality management; • flood risk, mitigation & warning; • urban stormwater management; • erosion control & sedimentation; • design of hydraulic structures; • water hammer analysis; • surface water hydrology - water supply & flooding; and • dam safety & hazard classification.

Profile

Dr. Macintosh has over 26 years professional civil engineering experience with the last 22 years in the water engineering field. His experience is broad and covers specialist investigation, design and computer modelling within the hydraulic, hydrological and hydrogeological fields. Ancillary areas of special interest include the practical application of new technologies, such as remote sensing and satellite imagery, radar for flood warning, and geographic information systems. His work has taken him to a variety of countries in South East Asia and the South Pacific on both aid based and commercially funded projects.



In October 1995 Dr. Macintosh established Water Solutions Pty Ltd with the key objective of providing specialist services within the water resources & engineering fields.

Prior to this, Dr. Macintosh has worked for a number of established engineering consultants including: CMPS&F Environmental (Manager and Principle Engineer, Water Engineering Group); GHD Pty Ltd (Principal Engineer, Hydrology & Hydraulics); and BHP Engineering (Supervising Engineering, Water Engineering Group).

Dr. Macintosh is an active member of the Institution of Engineers, Australia with current responsibilities including Immediate Past Chairman of the National Committee on Water Engineering and Member of the Queensland Division Water Panel (Past Chairman).

Professional Affiliations

- Fellow, Institution of Engineers, Australia.
- Member, College of Civil Engineers.
- Associate Member, Australian National Committee on Large Dams.

Associate Supervisor – PhD Students

- 2001, Department of Civil Engineers, University of Queensland
- 2004, Department of Civil Engineers, University of Queensland

Date of Birth

9 December 1957.



Publications and Presentations

Macintosh, J.C., 1986, "The Assessment of Urban Drainage Systems", *ACADS Urban Drainage Workshop*, Melbourne.

Ahern, P.A., and Macintosh, J.C., 1987, "Sungai Sarawak Floodplain Modelling Study", *3rd Queensland Hydrology Symposium*, The Institution of Engineers, Australia, July.

Isaacs, L.T., and Macintosh, J.C., 1988, "*Boundary Shear Measurement in Open Channels*", Research Report No. CE58, Department of Civil Engineering, University of Queensland, February.

Macintosh, J.C., and Isaacs, L.T., 1990, "Measurement of Boundary Shear Stress in Open Channels", *Proceedings of the Conference on Hydraulics in Civil Engineering*, Sydney, July.

Macintosh, J.C., 1990, "Hydraulic Characteristics in Channels of Complex Cross-section", Ph.D. Thesis University of Queensland.

Macintosh, J.C., 1992, "Prediction of Rating Curves for Channels with Floodplains", *6th Queensland Hydrology Symposium*, The Institution of Engineers, Australia, February.

Macintosh, J.C., and Isaacs, L.T., 1992, "A Transition Function for Artificial Strip Roughness in Open Channels", *Proceedings of the 11th Australasian Fluid Mechanics Conference*, Hobart, December.

Macintosh, J.C., and Isaacs, L.T., 1992, "RPT - The Roving Preston Tube", *Proceedings of the 11th Australasian Fluid Mechanics Conference*, Hobart, December.

Macintosh, J.C., 1992, "The Mechanics of River Hydraulics", *Civil Engineering Transactions*, Queensland Division, The Institution of Engineers, Australia.

Macintosh, J.C., 1993, "Numerical Analysis of Free Overflow Weirs", *7th Queensland Hydrology Symposium*, The Institution of Engineers, Australia, February.

Macintosh, J.C., 1994, "Hydraulics of Complex Channels", *1994 Conference on Hydraulics in Civil Engineering*, The Institution of Engineers, Australia, February.

Macintosh, J.C., 1994, "Tackling the Ungauged Catchment Problem", *8th Queensland Hydrology Symposium*, The Institution of Engineers, Australia, June.

Macintosh, J.C., 1995, "Advances in River Rating Techniques", *9th Queensland Hydrology Symposium*, The Institution of Engineers, Australia, July.

Macintosh, J.C., 1995, "Understanding Water Management", *Central Queensland Mine Rehabilitation Group*, Gordonstone, July [invited speaker].

Macintosh, J.C., 1995, "Effective Minesite Water Management", *IIR Conference on Environmental Management Systems in the Mining Industry*, Sydney, November [invited speaker].

Simpson, J.S., Macintosh, J.C., et al., "Willawong Solid Waste Landfill Remediation Preliminary Wetland Process Design", *Stormwater & Soil Erosion 97*, Stormwater Industry Association, Australia, September 1997.

Macintosh, J.C., 1997, "Hydraulic Software for Rating Curves", *10th Queensland Hydrology Symposium*, The Institution of Engineers, Australia, November.



Macintosh, J.C., 1998, "Ground-Truthing Rainfall Radar for Practical Engineering & Scientific Applications", 11th *Queensland Hydrology Symposium*, The Institution of Engineers, Australia, November.

Macintosh, J.C., 1999, "Water Quality Monitoring and Management", The Institution of Engineers, Australia, Queensland Division Water Panel Technical Presentation.

Macintosh, J.C., 2002, "Steep Gradient Waterway Stabilization – A New Design Technique", The Institution of Engineers, Australia, Queensland Division Water Panel Technical Presentation.

Macintosh, J.C. and Merritt J.L., 2003, "Risk Based Water Management – Practical Application for Serious Water Management", *Water In Mining 2003*, The Australasian Institute of Mining and Metallurgy, October.

Macintosh, J.C., 2004, "Steep Gradient Waterway Stabilization – An Innovative Design Technique", 8th *National Conference on Hydraulics in Water Engineering*, The Institution of Engineers, Australia, July.

Macintosh, J.C., 2005, "Oaky Creek Diversion – Design, Approval, Construction and Monitoring", Central Queensland Mine Rehabilitation Group Technical Presentation, Callide Mine.

Macintosh, J.C., 2005, "OPSIM Modelling at Callide Mine", Central Queensland Mine Rehabilitation Group Technical Presentation, Callide Mine.